

Xin Lei Lin

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EDUCATION

University of Toronto – St-George (Trinity College) August 2023 – April 2027
Bachelor of Science – Computer Science Specialist, and Molecular Genetics Major *Annual GPA: 4.0/4.0*
• **Awards:** C. David Naylor Scholar for Leadership (\$20k), Vector Research Grant (\$15k), Arts and Science Scholar (\$7.5k), 6T3 Award (\$500), DCS Research Award (\$7.5k Deferred) & UWaterloo President Scholar (\$2k Deferred)

EXPERIENCE

Ideogram January 2026 – Present
Member of Technical Staff (Intern) | Team: Core Machine Learning Research *Toronto, Ontario, Canada*
• Training text-to-image models from scratch, including **Ideogram 4.0** (#1 open-weight t2i model).

Vector Institute Toronto, Ontario, Canada
Machine Learning Research Intern | Advisor: [Prof. Michael Brudno](#) *August 2025 – Present*
• Generating facial meshes from genetic markers using diffusion models and implicit neural representations.

Machine Learning Research Intern | Advisor: [Prof. Babak Taati](#) *April 2024 – April 2025*
• Generated 82.5K 3D facial samples via mesh-based diffusion, neural face rigging (NFR) and physically-based rendering (PBR), while introducing ViTPain, cross-attention with neutral reference for pain assessment

Amazon Web Services May 2025 – July 2025
Software Development Engineer (SDE) Intern | Team: RDS Export to S3 *Vancouver, British Columbia, Canada*
• Saved ~\$8 million/year by optimizing the parallel export to S3 ETL pipeline with EMR, Hadoop Spark, and EKS

MiDATA (University of Toronto) September 2024 – April 2025
Machine Learning Researcher | Advisor: [Prof. Pascal N. Tyrrell](#) *Toronto, Ontario, Canada*
• Developed **MedSegGen**, a diffusion transformer to generate gastrointestinal polyp segmentation data.

Kadist (Artnow International) August 2024 – April 2025
Machine Learning Engineer *(Remote) – Paris, France*
• Developed **RsonArt**, an artist agent with RAG through history-aware & ensemble retrieval for Kadist.
• Webscraped 300k artists and artworks into a pgvector vector database on PostgreSQL.

DIRO (University of Montreal) October 2022 – September 2023
Machine Learning Researcher | Advisor: [Prof. Houari Sahraoui](#) *Montreal, Quebec, Canada*
• Represented Team Canada (top 12 projects at nationals) at ISEF 2023 in Dallas (won 10 awards worth \$15k+).
• Trained and compared four models (CNNs & LSTMs) for American Sign Language to English translation

PUBLICATIONS & TALKS

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- **Ideogram 4.0 Technical Report: Open Model at the Forefront of Design.** Ideogram 4.0 Research Team, 2026. [\[report\]](#)
 - **Pain in 3D: Generating Controllable Synthetic Faces for Automated Pain Assessment.** [X.L. Lin](#), S. Mehraban, A. Moturu, B. Taati. **ICPR 2026**, Lyon, France. [\[arXiv\]](#)
 - **CrossModalVit: Cross-Attention ViT for Multimodal MRI Fusion in MGMT Methylation Prediction.** V. Sahni, K. Namdar, [X.L. Lin](#), P.N. Tyrrell. **SPIE Medical Imaging**, 2026.
 - Poster Presentation, **RSNA Radiology Conference & Annual Meeting**, 2025.

PROJECTS

Plasmid.AI – iGEM (Top 10 of 500+ teams & Best Model Worldwide) March 2024 – December 2024
• Fine-tuned Evo (a Striped-Hyena genomic model) to generate plasmid DNA with antibacterial resistance [\[GitHub\]](#)

Red Handed – MakeUofT (2nd for Qualcomm and Flow) February 2024
• 3 neural networks and a robot arm to detect and counter drowsiness with Tensorflow & Arduino. [\[Devpost\]](#)

Re.Live – UofTHacks 11 (Cohere 1st Prize) January 2024
• Stable diffusion and Cohere RAG to create Harry Potter-like dancing albums from static images. [\[Devpost\]](#)

TECHNICAL SKILLS

Languages: French (Native), English (Native), Mandarin (Fluent), Spanish (International Baccalaureate)
Programming Languages: Python, C/C++, Java, R, Shell (Bash), SQL, Dart (Flutter), JavaScript, HTML/CSS
ML/DS Tools: PyTorch, JAX, Tensorflow/Keras, CUDA, TPU/GPU, GCP, AWS
Other: Linux/Unix, Docker, Kubernetes, Hadoop Spark, Tmux/Vim, Git/GitHub, Flask/Django, React $\LaTeX$